

L 55089-65

ACCESSION NR AM500/026

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- Ch. II. Calculation of resistor grids for the solution of nonstationary heat equations -- 18
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KOZDOBA, L. A., kand. tekhn.nauk, dotsent

Some results of the studies of the temperature fields of gas turbine rotors. Izv. vys. ucheb. zav.; energ. 7 no.5:59-64
My '64. (MIRA 17:7)
1. Odesskiy institut inzhenerov morskogo flota. Predstavlena kafedroy silovykh sudovykh ustanovok.

KOZDOBA, L.A.; MAKHLENKO, V.I.

Determining the shape, size of the molten welding pool, and
the mobile temperature field by means of combined electric
models. Avtom. svar. 17 no.6:19-23 Ja '64 (MIRA 18:1)

1. Odeskiiy institut inzhenerov morskogo flota.

L 10121-65 ENT(1)/EPF(1)-2 Pg 4 3SD/AS(mp)-2/ASD(2)-2/ARDC(a)/ASD(3)-3/

AFWL/ESD WJ/RM

ACCESSION NR: APOH71111

8/0170/64/000/002/0378/0082

AUTHORS: Kozdoba, L. A.; Krylovich, V. I.

TITLE: Some results of temperature field studies in cooled electric arc heater components on composite electric models

SOURCE: Inzhenerno-fizicheskii zhurnal, no. 9, 1964, 78-82

TOPIC TAGS: arc heater, arc jet, electrode, heat transfer, heat source

ABSTRACT: A composite electric model was used to study the temperature fields on an arc heater anode and cathode under steady state conditions. The investigation included the geometric details of the electrodes, the change in external heat

Card 1/2

L 10121-65

ACCESSION NR: APh047444

by the temperature distribution in the longitudinal section of the electrode when a concentrated heat source acts on one surface and a boundary condition of third kind is prescribed at the other. Orig. art. has 3 figures.

concentrated heat source acts on one surface and a boundary condition of third kind is prescribed at the other. Orig. art. has 3 figures.

ASSOCIATION: Institut teplo- i massopereva AN BSSR, g. Minsk (Institute of Heat and Mass Transfer, AN BSSR)

SUBMITTED: 10Feb64

MOI: 00

SUB CODE: OP, ME, TD

NO REF SOV: 005

OTHER: 002

Card 2/2

KOZDOBA, L. A.; KNYAZEV, L. V.

"Combined electric net models for solution of two- and three-dimensional unsteady heat-conduction problems."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Odessa Inst of Naval Engineering.

L 52315-65

ACCESSION NR: AP5011772

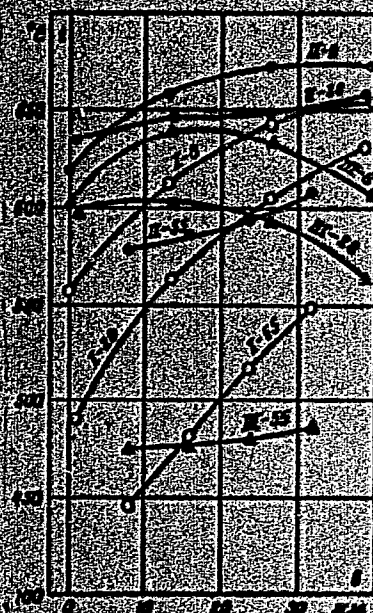
It was taken that at the edge, $\frac{\partial \theta}{\partial r} = 0$. The computed temperature distribution along the width of the shaft (8, 28) and along the rim of the disk (55) are shown in Fig. 1 on the Enclosure. Curve 1 is for the case without a deflector and with the boundary temperatures 400 and 600, and for the air temperature of 380. Curve 2 is for the same boundary temperatures but with a deflector. Curve 3 is for the case with a deflector and with boundary temperatures of 400 and 550.

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L 52315-65

ACCESSION NR. AP5011772

ENCLOSURE: 01



APPROVED FINGERPRINT DISTRIBUTION ALONG THE CIRCUMFERENCE OF THE RDP86-00513R00008
chart (8,28) and along the rim of the disk (55)

Card 3/3 244

200

KOZDOBA, L.A.; MAKHNENKO, V.I.

Temperature field of a body, bounded by conical surfaces, under
the action of an instantaneous annular heat source. Inzh.-
fiz. zhur. 8 no.1:82-86 Ja '65. (MIRA 1813)

1. Institut inzhenerov morskogo flota, Odessa.

KOZDOBA, L.A., doktor tekhn. nauk; KNYAZEV, I.V., inzh.

Use of three-dimensional composite analog computers in the study
of the temperature fields of a gas turbine rotor. Teploenergetika
12 no.5:36-40 My '65. (MIRA 18:5)

1. Odesskiy institut inzhenerov morskogo flota.

L 2577-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)/EWA(h)/ETC(m) WW/EH

ACCESSION NR: AP5019295

UR/0143/65/000/007/0106/0109
536.403.2

AUTHOR: Kozdoba, L. A. (Doctor of technical sciences); Makhnenko, V. I.
(Candidate of technical sciences)

TITLE: Investigation of the effect of critical thickness in locally heated shells

SOURCE: IVUZ. Energetika, no. 7, 1965, 106-109

TOPIC TAGS: heat conduction, heat transfer

ABSTRACT: A shell (or sheet) locally heated on one side and uniformly cooled on the other is theoretically considered. A lowest maximum temperature has been observed with certain "critical" thickness of the shell. Formulas for this maximum temperature depending on the heated spot geometry and some other factors are developed. Curves for the critical thickness depending on α/λ and $Bi = \alpha r_1/\lambda$ (where r_1 is the inside radius of the shell) are presented. The latter curve was constructed according to the data obtained from an electric simulator. Orig. art. has: 5 figures and 4 formulas.

ASSOCIATION: Odesskiy institut inzhenerov morskogo flota (Odessa Marine-Engineer Institute)
Card 1/2

L 2577-66

ACCESSION NR: AP5019295

SUBMITTED: 26Nov64

ENCL: 00

SUB CODE: AS, TD

NO REF SOY: 002

OTHER: 000

thermal stress

26

Card 2/2

L 09126-67

ACC NR:	AP6032583 (N)	SOURCE CODE:	UR/0143/66/000/009/0064/0072	59
AUTHOR:	Kozdoba, L. A. (Doctor of technical sciences)			
ORG:	Odessa Institute of Naval Engineers (Odesskiy institut inzhenerov morskogo flota)			
TITLE:	Use of of the EI-12 electronic integrator for determining the nonstationary three-dimensional temperature field of a gas turbine rotor			
SOURCE:	IVUZ. Energetika, no. 9, 1966, 64-72			
TOPIC TAGS:	digital integrator, gas turbine engine, turbine rotor, temperature distribution, electronic simulation			
ABSTRACT:	Although the EI-12 integrator is designed for solving stationary problems, resistance networks may be used to convert the unit for application to nonstationary problems. Work has been in progress in the electrical simulation laboratory of the Naval Engineering Institute since 1962 on developing methods for studying three-dimensional nonstationary temperature fields in gas turbine rotors using integrators of the EI-12 type. The author describes a resistor network attachment for the EI-12 developed at the Leningrad Metal Plant for determining the temperature field of the rotor in the GT-100-750 turboprop engine under transient conditions. The unit consists of an auxiliary panel of variable resistance boxes with a range from 0 to 100,000 Ω by tenths of an ohm. Some of the problems pertaining to investigations of fields in gas turbine			
Card 1/2	UDC: 536.12+621.438			

L 09126-67

ACC NR: AP6032583

rotors similar to that in the GT-100-750 engine are outlined. It is shown that integrators of the EI-12 type may be successfully used for studying temperature fields in turbine rotors and that the model may be broken down into individual parts in certain cases to give the field for the entire construction. Orig. art. has: 6 figures.

SUB CODE: 13, 09/ SUBM DATE: 26Apr65/ ORIG REF: 008/ OTH REF: 003

Card 2/2 nst

ACC NR: AT7000386

(N)

SOURCE CODE: UR/0000/66/000/000/0442/0451

AUTHOR: Kozdova, L. A.; Knyazev, L. V.

ORG: Odessa Naval Engineering Institute (Odesskiy institut inzhenerov morskogo flota)

TITLE: Combined electrical models for solution of two- and three-dimensional problems in unsteady state heat conductivity

SOURCE: Teplo- i massoprenos, t. 6: Metody rascheta i modelirovaniya protsessov teplo- i massoobmena (Heat and mass transfer, v. 6: Methods of calculating and modeling heat and mass transfer processes). Minsk, Nauka i tekhnika, 1966, 442-451

TOPIC TAGS: heat conductivity, model theory, electronic simulation

ABSTRACT: Successful use has been made of the method of electrical modelling on ohmic resistance grid circuits for solution of the differential equation for unsteady state heat conductivity

$$\frac{\partial}{\partial x_i} \left(\lambda_{xi} \frac{\partial T}{\partial x_i} \right) - (c\rho) \frac{\partial T}{\partial t} \pm w = 0$$

with boundary conditions of the I-IV type (Dirichlet and Neumann problems, and the mixed problem), as well as for solution of a system of differential equations of heat and mass transfer under given boundary conditions. For solution of the problem of non-linear equations, with variable coefficients and sources (sinks) of heat, use is

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ACC NR: AT7000386

preferably made of variable wire resistances. Figure 1 shows the scheme of an electrical model. Analysis of the results of the calculations shows a high degree of accuracy and good agreement with existing experimental data. Orig. art. has: 5 figures and 1 table.

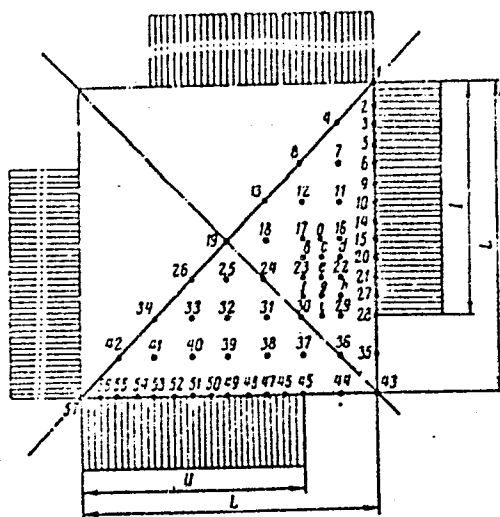


Figure 1. Scheme of a combined model for the solution of unsteady state heat conductivity problems

SUB CODE: 12, 20/ SUBM DATE: 08Jun66/ ORIG REF: 005/ OTH REF: 002
Card 2/2

ACC NR: AP7002919 (N) SOURCE CODE: UR/0170/66/011/006/0809/0831
AUTHOR: Kozdova, L. A.
ORG: Fleet Engineers Institute, Odessa (Institut inzhenerov morskogo flota)
TITLE: Use of Electric Models to Solve Heat-Mass-Transfer Problems
SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 11, no. 6, 1966, 809-831
TOPIC TAGS: linear programming, ~~computer technique~~, *MASS TRANSFER*, computer technique, heat transfer rate, analog system, heat conductivity
ABSTRACT: Soviet and non-Soviet works published since the 1962-65 period and some earlier publications on electric modeling of heat and mass transfer problems are reviewed. The relatively recent and most promising types of models and methods of solution are discussed in some detail, and thus failures, shortcomings, and successes are noted. The first three Soviet books published in 1964, on problems of electric modeling of heat transfer are mentioned, viz., monographs by M. P. Kuz'min, and L. A. Kozdoba, and a collection of works under the editorial direction of K. P. Seléznev, A. I. Taranin, and V. G. Tyryshkin. Factors contributing to the successful development of the ETA (Electro Thermal Analogy) method and information related to its development are presented. The following trends in the use of computing techniques are

Card 1/2 UDC: 536.24.01

ACC NR: AP7002919

listed: 1) the development and use of solution methods for non-linear heat-mass transfer problems; 2) the verification by analog models of analytical solution methods and programs for the ETsVM; 3) by computer solutions of reciprocal and inverse heat-conductivity problems; 4) broadening the scope of combination-type and hybrid models; 5) analog models are more widely used than the ETsVM to solve problems of both steady and non-steady heat conductivity because, with lesser assumptions, more complicated problems are solved by analog models; 6) to solve non-linear problems under the most general conditions, the models operating according to the Libmann's/Liebmann's/, L. A. Vulis' and A. T. Luk'yancov's static integrators are the most promising.

[BP]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 266/ OTH REF: 207

Card 2/2

KOZDOBA, L.K., kand.tekhn.nauk

Solution of certain transient heat conduction problems by means
of a resistance network. Sud.sil.ust. no.1:67-75 '61.

(MIRA 15:7)

1. Kafedra sudovykh parosilovykh ustanovok Odesskogo instituta
inzhenerov morskogo flota.

(Heat conduction—Electromechanical analogies)

KOZDON, A.

Protamine-zinc-insulin in combination protamine-zinc-insulin with ordinary insulin in ambulatory treatment of diabetes mellitus. Prakt. lek., Praha 32 no. 14:321-326 20 July 1952. (CLML 22:4)

1. Of the Institute of National Health (Director--Prof. Slabihoudek, M. D.) in Ostrava and of the Internal Department (Head--L. Rohacek, M. D.) of State Regional Hospital.

KOZDON, A. EXCERPTA MEDICA Sec.6 Vol.10/9 Internal Medicine Sept56

5816. KOŽDOŠ A. and STRAKATA-VAVŘIKOVÁ J. Z diabetického Odd. KÚNZ v Ostravě. *Globin-ZN-insulin při ambulantní léčbě útlavice cukrové. Globin-zinc-insulin in out-patient treatment of diabetes mellitus. ČAS. LÉK. ČES. 1955, 94/33 (904-908) Tables 4

After a thorough investigation into 215 out-patients, treated with globin-zinc-insulin, it is concluded that this insulin is most suitable in mild cases of diabetes, and is

simpler for less intelligent patients, who otherwise require a mixture of soluble insulin and protamine-zinc-insulin. Netoušek - Prague

KOZDON, A., mgr inz.

Reasons for the formula on capillary correction in aerometry.
Pomiary 10 no.2:Suppl.:Biul glow urz miar 13 no.1:95 F'64.

1. Laboratorium Pomiarow Gestosci, Glowny Urzad Miar, Warszawa.

KOZDOY, I.I.

The VU-2 double-cutter unit for working frozen ground. Biul.tekh.-
ekon.inform. no.11:40-42 '60. (MIRA 13:11)
(Earthmoving machinery)

MANEKI, W.; KOZDROJ, H.

Chemistry of the Lea agglutinin. Med. dosw. mikrob., Warsz. 3
no.4:392-398 1951. (CML 22:1)

1. Of the Institute of Medical Microbiology of Wroclaw Medical
Academy.

KOZDROJ, H.

MANSKI, W.; KOZDROJ, H.

Comparative study of the chemical structure of blood group
ABO and Le^a. Polski tygod. lek. 6 nos. 25-26:812-814 25 June 1951.
(CJML 21:1)

1. Of the Institute of Medical Microbiology in Wroclaw.

Kozdroj, H.

MANSKI, W.; KOZDROJ, H.

Comparative studies on chemical structure of blood groups
ABO and Le^a. Med. dosw. mikrob., Warsz. 4 no. 3:342 1952.

(CML 23:3)

1. Summary of work progress presented at 11th Congress of Polish
Microbiologists held in Krakow May 1951. 2. Wroclaw.

MANSKI, Wladyslaw; KOZDROJ, Helena

Investigations on dextran. III. Polydispersion of molecular weights and certain physiological and serological properties of dextran. Arch. immun. ter. dosw. 2:111-126 1954.

1. Instytut Immunologii i Terapii Doświadczalnej PAN we Wrocławiu. (Dyrektor: prof. dr L. Hirszfeld) Dział Biochemii (Kierownik: dr W. Manski)

(DEXTRAN,

polydispersion of molecular weight and physiol. & serol. properties)

MANSKI, Wladyslaw; KOZDROJ, Helena

Biochemistry of blood group substances. IX. Preparation of blood group substances from animal material. Arch. immun. ter. dosw. 3:347-358 1955.

1. Instytut Immunologii i Terapii Doświadczalnej PAN we Wrocławiu (Dyrektor: prof. dr. L. Hirszfeld) Dział Biochemii (Kierownik: doc. dr. W. Manski).

(BLOOD GROUPS,

A, B & O substance, prep. from animal organs (Pol))

KOZDROJ, H.

MANSKI, Wladyslaw; KOZDROJ, Helena; RADOLA, Michal

Biochemistry of blood group substances. X. Studies on inactivation of group substance A. Arch. immun. ter. dosw. 3:359-365 1955.

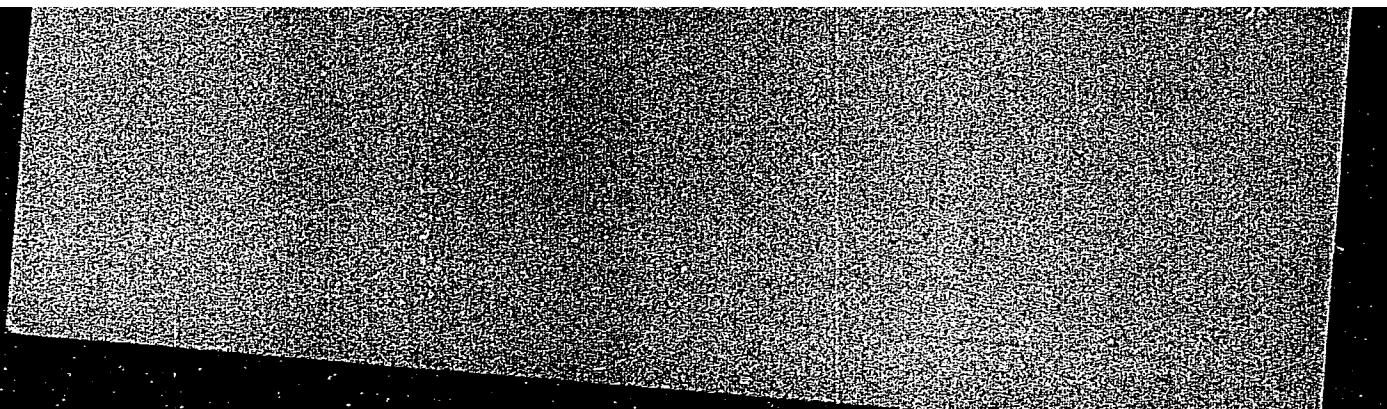
1. Instytut Immunologii i Terapii Doswiadczalnej PAN we Wroclawiu (Dyrektor: prof. dr. L. Hirszfeld) Dzial Biochemii (Kierownik: doc. dr. W. Manski).

(BLOOD GROUPS;

A substance, inactivation (Pol))

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000825720



APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000825720C

MANSKI, W.; KOZDROJ, H.

Studies on polymorphous substances in blood groups. Acta biochem. polon.
5 no.3:245-266 1958.

1. Z Instytutu Biochemii i Biofizyki PAN w Warszawie.
(BLOOD GROUPS,
polymorphous substances (Pol))

KOZDROJ, Helena

Biochemistry of mucopolysaccharides. Postepy hig. med. dosw 14
no.2:123-144 '60.

1. Z Instytutu Biochemii i Biofizyki PAN, Dyrektor: prof. dr J.
Heller.

(MUCOPOLYSACCHARIDES metab.)

KOZDROJ, H.

ABO-group active glycoproteins in human blood serum. Bul Ac Pol
biol 9 no.5:201-202 '61. (EEAI 10:9)

1. Institute of Biochemistry and Biophysics, Polish Academy of
Sciences. Presented by E. Mikulaszek.

(GLYCOPROTEINE) (SERUM)

KOZDROJ, H.

Glycoproteins of the ABO system with blood group activity in the
body fluids. Bul Ac Pol biol 9 no.5:203-207 '61.
(EEAI 10:9)

1. Institute of Biochemistry and Biophysics, Polish Academy of Sciences.
Presented by E. Mikulaszek.

(GLYCOPROTEINE) (BLOOD) (BODY FLUIDS)

KOZDROJ, H.

Multiforms of glycoproteins with ABO blood group activity in human serum. Bul Ac Pol biol 10 no.2:39-42 '62.

1. Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw. Presented by E.Mikulaszek.

X

RABSZTYN, Jerzy, doc. mgr inż.; KOZDROJ, Marian, dr. inż.

Draft of the classification of mines in the coal industry according to fire hazard. Wiadom gorn 15 no.3:73-77 Nr '64

KOZDROJ, Marian

Distributions of the probable numbers of fires in mines
during a conventionally presupposed period. Archiw gorn
8 no. 4: 381-394 '63.

KOZDROJ, Marian, dr inz.

Use of statistical quality control in receiving round timber
by Polish collieries. Przegl gorn 19 no.11:427-439 N '63.

KOZDROJ, Marian, mgr., inz.

Miners' antifire shelters. Przegl gorn 17 no.7/8:385-395 J1-Ag '61.

KOZDROJ, Marian, mgr.,inz.

Evaluation of the deficiencies of protective absorbers against
CO. Przegl gorn 17 no.12:646-647 '61.

KOZDROJ, Marian, mgr. inz.

The phenomena of fires in the coal mines during the years
1955 1960. Wiad gorn 13 no.1:26-31 Ja '62.

KOZDROJ, Marian, dr inz.

Determination of the indexes of fire hazards in collieries. Przegl
gorn 18 no.12:709-712 D '62.

KOZDROJ, Marian, mgr inz.

Directives for coal winning. Wiadom gorn 13 no.11:377-386 N '62.

KOZDROJ, Marian, mgr inz.

Working of thick strata layer by layer in the Mikulczyce-Rokitnica mine. Wiadom gorn 13 no.3:81-87 Mr '62.

KOZDROJ, Marian

Winning sequence from the deposits of the 500 group in the
Rokitnica mine. Wiadom gorn 12 no.7/8:237-238 J1-Ag '61.

KOZDROJ, Marian, dr inz.

Discussing the ways of mechanical stowing of working headings.
Wiadom gorn 14 no.5:123-130 My '63.

KOZDROJ, Marian, dr inz.

Determination of the optimum rescue measures for miners in
escape roads in collieries. Przegl gorn 20 no.1:25-32 Ja '64.

RABSZTYN, Jerzy, doc. dr inż.; PARYSIEWICZ, Witold, doc. dr inż.; KOZDROJ,
Marian, doc. dr inż.

Orientation tables for the selection of the proper method of
coal mining. Wiadom gorn 15 no.12:371-374 D '64.

KOZDROJOWNA, HELENA

Chemical Abstracts
May 25, 1954
Organic Chemistry

(3)

The oxidation of quinoline and β -picoline by nitric acid. Edwin Plack and Helena Kozdrojowna (Univ. Inst. Technol., Wrocław, Poland). *Roczniki Chem.* 25, 609-13 (1951) (English summary).—HNO₃ at the b.p. has practically no oxidizing effect upon quinoline (I) or β -picoline (II); however, at higher temp. HNO₃ oxidizes I and II. I (2.5 g.) heated in a closed vessel with 15 ml. HNO₃ (d. 1.4; use of acid of higher d. is disadvantageous) 1st 5 hrs. at 130°, then, after cooling and removing the formed gases, another 5 hrs. at 150°, and last 5 hrs. at 180°, gave a product, which, after removal of the HNO₃, sol. in 50 ml. H₂O, and treatment with CuSO₄ and AcONa, yielded a blue-green Cu salt of nicotinic acid; this salt treated with H₂S gave a ppt. of CuS and after evapn. of liquid, 0.75 g. (32%) nicotinic acid (III), m. 226°. II (3 g.) and 15 ml. HNO₃ with Hg(NO₃)₂ as a catalyst were heated 8 hrs. at 150-5°, the mixt. evapd. on a water bath, and the residue dissolved hot in 50 ml. H₂O; cooling gave cryst. nicotinic acid nitrate (IV); m. 187-90°. IV decompd. with soda and recrystd. from H₂O gave an 8.2-g. fraction, m. 232-3°, of nicotinic acid; the supernatant liquid of this fraction acidified, treated with MgSO₄ and AcONa, and decompd. with H₂S gave CuS (filtered off), and a 2nd fraction (2.1 g.) of pure III, m. 232-3° (from H₂O). The filtrate from IV after treatment with Na₂CO₃, evapn., acidification with HCl, and treatment with MgSO₄ and AcONa, gave a product, m. 205-15°, which, recrystd. from H₂O, yielded 2.3 g. of a mixt. of III and isonicotinic acid (sepn. failed). The total yield of the products from II was 14.4 g. (60%).
Gene A. Wozniak

KOZENURA, D.

Taking pictures in television by the rotating-hyphenate disc method. p. 92
(Strojnoelektrotechnicky Casopis. Bratislava. Vol. 3, no. 1, 1952)
SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6,
June 1955, Uncl.

KOZEHUBA, J.

KOZEHUBA, J. Measurement of the factor of length. p. 126

Vol. 8, no. 3, Mar. 1956

TECHNICKA PRACA

TECHNOLOGY

Bratislava, Czechoslovakia

So: East European Accession Vol. 6, no. 2, 1957

MICHL, Jaroslav; KOZEHUBA, Zdenek

Some influences on shoemaking with prepared soles. Kozarstvi 13
no.8:247-250 Ag '63.

1. Vyzkumny ustav kozedelny, Gottwaldov.

1. KOZEL, A. K.

2. USSR (600)

4. Machine-Tractor Stations

7. Work practice of our tractor brigade. Dost. sel'khoz. no. 2, '52.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KOZEL, A.

Clearing of Land

Clearing fields of stones Kolkh. proizv. 12, No. 3, 1952

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

KOZEL, A., inzhener.

New technique for blasthole drilling. Mast.ugl.5 no.7:12-13
Jl '56. (Kuznetsk Basin--Boring) (MIRA 9:9)

KRUPENNIKOV, G.A.; KOZEL, A.M., inzh.; FILATOV, N.A., inzh.

Approximative calculation of loads on supports of shaft mouths. [Trudy]

VNIMI no.45:204-218 '62.

(MIRA 16:4)

(Rock pressure)

(Mine timbering)

KOZEL, A.M., inzh.

Nature of rock pressure in horizontal workings and planning supports for
shaft bottoms. [Trudy] VNIMI no.45:219-229 '62. (MIRA 16:4)
(Rock pressure) (Mine timbering)

KOZEL, A.M., inzh.

Evaluation of tangential forces on the outside surface of a solid concrete ring support and selection of the thickness of the support for given uneven loads. Trudy VNIMI no.46:143-159-162.

(MIRA 16:5)

(Mine timbering)

(Rock pressure)

(Concrete construction)

KOZEL, A.M., inzh.

Bearing pressure as a factor affecting shafts and shaft bottoms. Trudy
VNIMI no.46:166-194 '62.

(MIRA 16:5)

(Rock pressure)

KCZED, A.M., inzh.

Stability of walls of variously directed workings depending on
the angle of the dip of rocks. [Trudy] VNIMI no. 50:59-77 '63.
(MIRA 17:10)

KOZEL', B. Sh.

Dissertation: "Methods to Study the Equilibrium in Heterogenous Salt Systems Contained in Isomorphous Mixtures." Cand Chem Sci, Saratov State U, Saratov 1953.

W-30928

SO: Referativnyi Zhurnal, No. 5, Dec 1953, Moscow, AN USSR, (N-~~24444~~).

SOV-109-3-6-14/27

AUTHORS: Bakhrah, L. E., Kozel', I. Sh.

TITLE: The Problem of Focussing of a Hollow Cylindrical Electron Beam in a Longitudinal Magnetic Field (K voprosu o fokusirovke pologo tsilindricheskogo elektronnoho potoka v prodol'nom magnitnom pole)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 6, pp 819-825 (USSR)

ABSTRACT: An attempt is made to investigate the problem of focussing of a hollow cylindrical electron beam in the absence of an axial conductor inside the beam. The problem is analysed under the following assumptions: (1) The magnetic field is axially symmetrical and its longitudinal component is independent of the radial distance; (2) The wavelength of the axial change of the surface of the electron beam is large in comparison with its diameter. The radial motion of the electrons can be described by the following differential equation (Refs.2 and 4):

$$\frac{d^2 r}{dt^2} + r \left(\frac{\eta B}{2} \right)^2 - r \left(\frac{\eta B_c}{2} \frac{r_c^2}{r^2} \right)^2 = \frac{\eta^{1/2} I}{2\sqrt{2} \eta \epsilon_0 U^{1/2} r}, \quad (1)$$

Card 1/4

SOV-109-3-6-14/27

The Problem of Focussing of a Hollow Cylindrical Electron Beam in a Longitudinal Magnetic Field

where ϵ_0 is the permittivity of free space, B_c and B are the magnetic inductions at the cathode and at a given point of the system, respectively, r_c is the radius characterising the position of an electron at the cathode, η is the ratio of the electron charge to its mass and I and U are the current and voltage of the beam. If $r = r_m(1 + \delta)$, where $\delta \ll 1$, and r_m is the so-called equivalent radius, Eq.(1) can be written in the form of Eq.(2), where the various parameters are defined by Eqs.(3). The solution of the equation is in the form of Eq.(4). By finding the two integration constants of Eq.(4), the solution can be written in the form of Eq.(5). This can be used to define the "wavyness" of the external boundary of the beam, δ_{makc}^e , and that of the internal boundary, δ_{makc}^i . The

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The Problem of Focussing of a Hollow Cylindrical Electron Beam in a Longitudinal Magnetic Field

investigation of the formula for δ^e and δ^i shows that it is impossible to reduce the "wavyness" to zero simultaneously at both the boundaries; this effect is illustrated in Figs. 1 and 2. If the magnetic field is given by:

$$B = B_0 \cos x \quad , \quad (7)$$

where $x = \frac{2\pi}{p} z = \omega t$, where p is the period of the

focussing system and z is the axial component, Eq.(1) can be written in the form of Eq.(8), from which δ can be expressed in terms of Eq.(9); the various symbols of Eq.(9) are defined by Eqs.(10), (11), (12) and (13). The solution of Eq.(9) is in the form of Eq.(14), where $B_a = B_0 \cos x_a$ is the value of the magnetic induction at the anode. The "wavyness" of the external boundary δ^e and the internal boundary δ^i is determined for the case of $B_{a=0}$; the resulting formulae are shown on p 823; graphically δ^i as a function of x is represented in Fig.3. If it is assumed that $x = 1$, the "wavyness" of the external and internal

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SOV-109-3-6-14/27

The Problem of Focussing of a Hollow Cylindrical Electron Beam in a Longitudinal Magnetic Field

boundaries can be expressed by Eqs.(17) and (18) respectively; the equations are plotted in Fig.4, where Curve 1 corresponds to the "wavyness" of the internal boundary while the remaining curves represent the "wavyness" of the external boundary for various values of β . There are 4 figures and 5 references, of which 4 are English and 1 German.

SUBMITTED: January 12, 1957.

1. Electron beams - Focusing
2. Magnetic field - Applications

Card 4/4

88696

S/058/60/000/010/005/014
A001/A001

26.2322
Translation from: Referativnyy zhurnal, Fizika, 1960, No. 10, p. 309, # 27424

AUTHOR: Kozel', I.Sh.

TITLE: On Focusing the Hollow Cylindric Electron Beam in a Periodic Magnetic Field

PERIODICAL: Tr. Konferentsii po elektronike SVCh, 1957, Moscow-Leningrad, Gosenergoizdat, 1959, pp. 90 - 94

TEXT: The author presents a theory of focusing the hollow cylindric electron beam in a periodic magnetic field. The magnetic field is assumed to be axial-symmetric one, and the wavelength of axial non-homogeneity of the beam surface is large in comparison with its thickness. The state of the boundary of the electron beam the author characterizes by the so-called undulation, $(r_{\max} - r_m)/r_m$, where r_m is averaged equilibrium radius and r_{\max} is maximum deviation of an electron from the system axis. An expression for the undulation of the inner boundary of the beam has been derived. Expressions for undulation are simplified for the case when the electron beam enters the focusing system without a radial velocity

Card 1/2

88696

S/058/60/000/010/005/014
A001/A001

On Focusing the Hollow Cylindric Electron Beam in a Periodic Magnetic Field

and the periodic magnetic field passes through zero at the entrance of the system. X
It is shown that minima of undulation for the outer and inner boundaries of the beam are attained at different degrees of screening the cathode from the magnetic field. Graphs of relations of both undulations with the magnetic field parameters are plotted for the case of cathode screening corresponding to the undulation minimum of the inner boundary; they are plotted for various values of space charge parameters. It follows from the graphs that in order to secure the prescribed degree of undulation, the perveance of the beam should be lower and the voltage of the beam higher than some quite definite values. It means that periodic magnetic focusing can be successfully applied only for hollow electron beams with a limited perveance; it follows further, that variations of the beam voltage in wide limits are possible within the range of prescribed undulation of the hollow beam boundaries and restrictions in the perveance value connected with this.

G.N. Shvedov

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/194/62/000/004/083/105
D271/D308

AUTHORS: Golubkov, P. V., Bakhrakh, L. E., Kozel', I. Sh.,
Kozlov, I. G. and Medoks, V. G.

TITLE: Study of certain properties of electron streams

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 4, 1962, abstract 4zh106 (Uch. zap. Saratovsk.
un-t, 1960, 69, 41-56)

TEXT: Results are reported of a theoretical and experimental study of the structure of long electron streams, of diverse configuration, flowing in focussing fields. Ripple factors of the inner and outer surface of a hollow cylindrical electron stream, focussed by a permanent or periodic magnetic field, are computed and plotted. The possibility of holding ripples between definite limits, while voltage varies in a wide range, is shown. Formulas and graphs are obtained for the rippling of inner and outer surfaces of a hollow electron beam with centering electrostatic focussing. It is shown that the ripple amplitude is determined by the ratio of the inner

Card 1/2

Study of certain ...

S/194/62/000/004/083/105
D271/D308

and outer radii of the beam. Effects of space charge are taken into account. Current density distribution in the cross-section of the beam and the rippling of its surfaces were experimentally investigated. A special adjustable collector system was used in this investigation. Density distribution curves were plotted point-by-point and displayed on an oscilloscope as well. Ribbon beam and hollow cylindrical beam were studied in a longitudinal magnetic field. Velocity distribution of electrons in electron beams was experimentally investigated. Cylindrical condenser was used as velocity analyzer. Experimental measurements were taken in various cross-sections of the beam, in a wide range of accelerating voltages and with various residual gas pressures. It is pointed out that the velocity distribution curve has two maxima, and possible explanations are discussed. /-Abstracter's note: Complete translation./

Card 2/2

KOZESNIK, Jaroslav, akademik

Stochastic theory of biological and economic configurations. Acta
techn Cz 9 no.5:395-413 '64.

1. Czechoslovak Academy of Sciences, Prague 1 -- Stare Mesto, Narodni
trida 3. Submitted on April 26, 1964.

KOZESNIK, Jaroslav, akademik

Probability of the extinction of continuous cultivation. Kybarnetika
1 no.1:12-27 '65.

1. Czechoslovak Academy of Sciences, Prague 1, Narodni 3. Submitted
July 14, 1964.

SKLADAL, J.; KOZEL, J.; KOCI, B.; SLABA, J.; Za technicke spoluprace
E. Braunove a A. Resia.

Experiences with a fluid contrast medium for roentgenographic
picture of the respiratory tract. Cesk. fysiolo. 5 no.2:246-
249 23 June 56.

1. Ustav klinicke fysiologie LF KU, Ustav lekarske vysiky LF KU,
Praha. Demonstrovano na Sjezdu cs. fysiologu, farmakologu a
biochemiku dne 19. rijna 1954 v Praze.

(RESPIRATORY TRACT, radiography,
contrast media, fluid (Cz))

(CONTRAST MEDIA,
in respiratory tract radiography (Cz))

KOZEL, J.

SELADAL, J.; KOZEL, J.; KOCI, B.; SLABA, J.

The question of a gaseous x-ray contrast medium for x-ray of the respiratory apparatus. *Physiol. bohém.* 5 no.3:330-332 1956.

1. Institute of Clinical Physiology and Institute of Medical Physics, Prague.

(RESPIRATORY TRACT, radiography,

gaseous contrast media)

(CONTRAST MEDIA,

gaseous for x-ray of respiratory tract)

Country : CZECHOSLOVAKIA
Category : Forestry, Biology and Typology of the Forest. K
Abs Jour : RZhBiol., No 6, 1959, No 24691
Author : Kozel, J.
Inst :
Title : Ameliorating Effect of the Red Elder.
Orig Pub : Lesn. prace, 1957, 36, No. 6, 252-257
Abstract : By a comparative analysis of soil specimens, taken from under the bushes of the red elder in Krzhivoklatskiy Kray (Czechia), from the forest glade and from under the spruce, a high soil-improvement effect of this species was established. A considerable decrease of soil acidity, an increase of the contents of humus, nitrates, easily accessible nutrient substan-
Card : 1/2

Country : CZECHOSLOVAKIA
Category : Forestry. Biology and Typology of the Forest. K
Abs Jour : RZhBiol., No 6, 1959, No 24691
Author :
Inst :
Title :
Orig Pub :
Abstract : ces, particularly in the upper 20-cm soil layer, were observed. To grow the elder successfully, young plants or old offshoots were used. Sowing stratifying seeds produced less successful results; the application of non-stratified seeds and grafts proved to be unsuccessful. — M. K. Bush
Jard : 2/2

NASZ, Sandorne; KOZEL, József

Some experience in re-examining norms in the Budapest Canning Factory.
Munka szemle 5 no.9:11-15 S '61.

UHMANN, Jan; KOZEL, Josef

Physical properties of rocks in the Nova Vieska-1 key borehole.
Prace Ust naft 22 no.99:81-87 '64.

CZECHOSLOVAKIA/Human and Animal Physiology (Normal and
Pathological). Metabolism. Nitrogen Metabolism.

T-2

Abs Jour : Ref Zhur - Biol., No 16, 1958, 74454

Author : Liebster, J.; Babicky, A., Kozel, J., Liss, E., Sydow, G.

Inst : -

Title : Preparation of Proteins of Labeled I¹³¹.

Orig Pub : Folia biol. (Ceskosl.), 1957, 3, No 3, 183-189

Abstract : A method has been developed labeling proteins (P) with I¹³¹ which provides the possibility of sharply increasing their radioactivity and also using a diluted solution of I. With the purpose of increasing the concentration of the labeled P, it is necessary to use purified P by subjecting them to dialysis against a 0.9% solution of NaCl, before iodizing. The addition of a small quantity of H₂O₂ permit almost the complete utilization of I. The best method to remove uncombined I and salts is by dialysis against a 0.9% solution of NaCl. -- Yu.N. Kremer.

Card 1/1

KOZEL, J. COUNTRY : CZECHOSLOVAKIA
 CATEGORY : General Biology. B
 Physical and Chemical Biology.
 ABS. JOUR. : RZhBiol., No. 5, 1959, No.18980
 AUTHOR : Liebster, Jindrich; Babicky, Arnost; Kozel,*
 INFO. : -
 TITLE : The Preparation of ¹³¹I Labeled Proteins .
 ORIG. PUB. : Ceskosl. biol., 1957, 6, No 3, 227-231
 ABSTRACT : An improved method of iodizing proteins by
 labeled ¹³¹I has been proposed which gives
 stable and reproduceable results. A high yield
 (up to 90 percent) depends upon the protein's
 purity, the quantity of iodide, which has been
 oxidized to iodine, and on the small quantity
 of hydrogen peroxide added to the iodized
 solution. With a minimum quantity of the substrate,
 protein preparations were obtained which con-
 tained iodine in such amounts as not to change

CARD: 1/2*Jaraslov; Liss, Eberhard; Sydow, Guenther.

COUNTRY : CZECHOSLOVAKIA
CATEGORY :

B

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : either the protein structure nor consequently
its antigen properties. -- V. A. Dorfman

Card: 2/2

LIEBSTER, J.; KOPOLDOVA, J.; KOZEL, J.; DOBIASOVA, M.

Preparation of compounds nonspecifically marked with C^{14} by means of biosynthesis. I. Apparatus for biosynthesis and preparation of non-specifically marked Carbohydrates. Coll Cz chem 26 no.6:1582-1590
Je '61.

1. Biologisches Institut der Tschechoslowakischen Akademie der Wissenschaften, Prag.

(Tracers(Biology)) (Carbohydrates)

LIEBSTER, J.; KOPOLDOVA, J.; DOBIASOVA, M.; KOZEL, J.

Preparation of C^{14} -tagged compounds by means of biosynthesis. II.
Isolation of C^{14} -tagged photosynthesis products from the algae
Chlorella vulgaris. Coll Cz chem 26 no.6:1694-1699 Je '61.

1. Biologisches Institut, Tschechoslowakische Akademie der Wissen-
schaften, Prag.

(Tracers(Biology)) (Algae) (Photosynthesis)

VERES, K.; KOZEL, J.; PROCHAZKA, Z.

On the bound form of ascorbic acid. Pt. 19. Coll Cz Chem 28
no.3:750-752 Mr '63.

1. Biological Institute, Czechoslovak Academy of Sciences,
Prague, and Institute of Organic Chemistry and Biochemistry,
Czechoslovak Academy of Sciences, Prague.

KOŽEL, Josef, inz.

Effect of methyl alcohol in the boring circulation on the
change of potentials of self-polarization. Geol průzkum 6
no.12:374-375 D '65.

1. Institute of Applied Geophysics, Brno.

KOZEL, Jaroslav, inz. CSc.

Problems of the effectiveness of investments in the water resources management. Vodni hosp 14 no.7:277-278 '64

1. Research Institute of Water Resources Management, Prague

KOZEL, Jaroslav, inz., Sc.C.; REINHARDT, Vladimir, dr.

Desalinization of water. Vodni hosp 12 no.12:477-479 D
'62.

1. Vyzkumny ustav vodohospodarsky, Praha-Podbaba.

KOZEL, Josef, inz,

Laboratory measurement of specific resistances of rocks.
Geol pruzkum 5 no.4:107-109 Ap '63.

1. Ustav uzite geofysiky, Brno.

KOZEL, Josef, Ing.

Absorbing diffusion potentials and their place in the system
of natural potentials. Geol pruzkum 6 no.9:266-268

1. Institute of Applied Geophysics, Brno.

KOZEL, Josef

Specific conductivity of rocks. Prace Ust naft 20:72 '63.

ZVEREV, M.S.; SHARONOV, V.V., prof.; MAGNITSKIY, V.A., prof.; SHRUTKA, Guntram [Schrutka, Guntram], prof.; YURI, Garol'd [Urey, Harold C.], laureat Nobelevskoy premii (SShA); KOPAL, Zdenek, prof.; KOZEL, Karol, prof.; ROSH, Zhan [Rösch, J.]

Twenty-two answers to three questions. Nauka i zhizn' 28 no.3:23,25, 29, 30-32 Mr '61.
(MIRA 14:3)

1. Chlen-korresspondent AN SSSR (for Zverev).
 2. Direktor astronomicheskoy observatorii Leningradskogo universiteta (for Sharonov).
 3. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (for Mangitskiy).
 4. Venskiy universitet (Avstriya) (for Shrutka).
 5. Manchesterskiy universitet (Angliya) (for Kopal).
 6. Krakovskiy universitet (Pol'sha) (for Kozel).
 7. Observatoriya Pik-dyu-Midi (Frantsiya) (for Rosh).
- (Moon)

5(2)	PLAGE 1 BOOK EXPLANATION 508/223	
	Abdumajid, A. S. S. Institut obshchey i neorganicheskoy khimii	
	Plazma fizicheskoy khimii, Vol. 3 (Chemistry of Rare Elements, Pt. 3) Moscow, Izdatel'stvo AN SSSR, 1971. 137 p. 4,500 copies printed. Extra all inserted.	
	MA. of Publishing House) Yu. S. Milyukovskiy, Tech. Ed. A. A. Perlovskiy	
	Editorial Board: I. V. Tsunovskiy (Chairman), S. A. Pogodin, Ye. Ye. Zhelezovskiy, and O. P. Bogdanov (Secretary).	
	PURPOSE: The book is intended for scientists and engineers concerned with the study and utilization of rare elements.	
	CONTENTS: The book is a collection of papers on investigations in the chemistry of rare elements conducted at the Institute obshchey i neorganicheskoy khimii (General and Inorganic Chemistry Institute) of the Academy of Sciences of the USSR. The book contains 133 references. There are 133 references.	
	29 Soviet, 53 English, 41 German, 15 French, 4 Italian, and 1 Japanese.	
	Milyukovskiy, Ye. Ye., and Ye. B. Tolstova. Investigation of Solubility in the System Lithium Carbonate-Lithium Sulfate-Water at 50°C	3
	Novoselova, A. V., and L. P. Nebel'skaya. Vapor Pressure of Saturated Solutions in the System $(H_2O)_2SO_4 - Na_2SO_4 - H_2O$	6
	Bratov, G. O., Ye. B. Tolstova, Ye. Ye. Flyubskiy, and Ye. I. Chaykina. Investigation of Solubility in the System Lithium Sulfate-Ammonium Sulfate-Water at 50°C	14
	Tsunovskiy, I. V., and Ye. I. Lerman. Neodymium Ferrocyanides	25
	Tsunovskiy, I. V., and Ye. V. Zaslavskaya. Gallium Ferrocyanides and Their Analytical Significance	41
	Arbuzov, G. B. Investigation of the Interaction of Ions of Gallium and Oxidate in Aqueous Solution	57
	Bratov, G. O., and I. V. Tsunovskiy. Investigation of the Reaction of Neodymium with Indium Hydroxide	73
	Tsunovskiy, I. V., and A. P. Kobzhikova. Synthesis and Thermographic Investigation of Some Complexes of Indium	87
	Novoselova, A. Ye., and Ye. B. Tolstova. Isothermal Solubilities at 50°C in the Systems $Na_2CO_3 - NaCl - H_2O$ and $Na_2CO_3 - Na_2SO_4 - H_2O$	100
	Novoselova, A. Ye. The Chromate Method of Determination of Thallium	105
	Alimarin, I. P., and L. Z. Erel'. Quantitative Determination of Zirconium with Pyridine	114
	Bratov, G. O., A. A. Galay, and Ye. B. Tolstova. Asymmetric Determination of Molybdenum	119
	Novoselova, A. Ye. A Project of Compiling a Reference Guide on Rare Earth Metals	121
	AVAILABLE: Library of Congress	
	Card 3/3	

10-1-79

Kozel', L. Z.

137-58-2-4389

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 299 (USSR)

AUTHORS: Alimarin, I. P., Kozel', L. Z.

TITLE: Using Phytin for Quantitative Determination of Zirconium
(Kolichestvennoye opredeleniye tsirkoniya fitinom)

PERIODICAL: Khimiya redkikh elementov, 1957, Nr 3, pp 114-118

ABSTRACT: Up to 6 N HCl was added to a Zr-salt solution, and the Zr was precipitated out by heating it with a 2% phytin solution in an 0.5N HNO₃. To wash the Zr-phytate precipitate, 30 cc of (1:1) HCl were decanted over it; it was then filtered through 50 cc of (1:4) HCl, and finally was filtered through H₂O. After calcination at 1000-1050°C the Zr-metatriphosphate was weighed. The conversion factor used was $ZrO_2/2ZrO_2 \cdot 3P_2O_5 = 0.3932$. To determine the Zr content of the steels, an 0.5-1.0 gram portion of each was dissolved during heating in 80 cc of (1:1) HCl, after which the Zr was precipitated out with phytin. To reprecipitate it, the precipitate was dissolved in H₂O containing 2 grams of H₂C₂O₄, to which up to 6N HCl was added, and the Zr was precipitated with 10 cc of a 2% phytin solution. Sometimes a three-stage reprecipitation procedure is necessary. The relative error was $\pm 3\%$.

P. K.

Card 1/1

1. Steel alloys 2. Zirconium—Determination 3. Phytin
—Applications

KOZEL, L. Z.

PHASE I BOOK EXPLANATION SOV/732

Moscow. Institute staff
Proizvodstvo i obrabotka stali i splavy (Production and Treatment of Steel and Alloys) Moscow: Metallurgizdat, 1960. 462 p. (Series: Ist. Sbornik, 39) 2,100 copies printed.

Ed.: Ye. A. Borzoi; Ed. of Publishing House: S. L. Zinger; Tech. Ed.: M. R. Kleyman; Editorial Council of the Institute: M. A. Glinov, Professor, Doctor of Technical Sciences; R. N. Gligorin, Doctor, Candidate of Technical Sciences; V. P. Polyutin, Professor, Doctor of Technical Sciences; A. A. Zhukhovitskiy, Professor, Doctor of Technical Sciences; I. N. Kildu, Professor, Doctor of Technical Sciences; B. G. Lavrentis, Professor, Doctor of Technical Sciences; I. M. Pavlov, Doctor, Professor, Doctor of Technical Sciences; and A. M. Pokutnyev, Professor, Doctor of Technical Sciences.

NOTE: This book is intended for technical personnel in industry, scientific institutions and schools of higher education, dealing with open-hearth and electric-furnace steelmaking, metal rolling, physical metallurgy, metallography, and heat treatment. It may also be used by students specializing in these fields.

CONTENTS: The book contains results of theoretical and experimental investigations of metallurgical and heat-engineering processes in open-hearth and electric furnaces. Data are included on the following: desulfurizing of pig iron outside the blast furnace, treatment of oxides of the carbide-forming metals with solid carbon in the open-hearth; periods of melting, intensification of the electric melting of steel; the dependence of the rolling and continuous rolling process, the dependence of the rolling and slippage coefficients in rolling on a number of factors; and other problems in the processing of metals. Articles on physical metallurgy and the theoretical principles and techniques of the heat treatment of steel are also included. No personalities are mentioned. References accompany most of the articles. There are 207 references, both Soviet and non-Soviet.

Card 2/10

Gorshkova, J. S. Doctor, Candidate of Technical Sciences, V. M. Kabanov, Engineer, and Ye. I. Shchegolev, Engineer (Department of the Physics of Metals and X-Ray Analysis). Institute of Steel Alloys
381

Kolubnikov, P. I., and O. S. Popov, Engineer (Department of Metal in Diagonal Rolling). Investigation of the Deformation of Metal in Diagonal Rolling at Deformation
400

Gel'fand, B. Y., Candidate of Technical Sciences (Department of Electrotechnics). Magnetic Viscosity of High-Speed Alloys
422

Zemashov, A. D., Doctor of Chemical Sciences, and M. P. Zhuk, and Ye. N. Mironov, Candidates of Chemical Sciences (Department of Corrosion of Metals). Behavior of Iron and Steel in Oxidizing Solutions
438

Dzrov, A. M., Doctor of Chemical Sciences, and L. Z. Kozel, Candidate of Chemical Sciences (Department of Analytical Chemistry)
Card 9/10

DYMOV, A.M., doktor khimicheskikh nauk; KOZEL', L.Z., kand.khimicheskikh nauk

Colorimetric method as applicable to the analysis of metals and alloys. Sbor.Inst.stali no.39:450-461 '60.
(MIRA 13:7)

1. Kafedra analiticheskoy khimii Moskovskogo ordena Trudovogo Krasnogo Znameni instituta stali im. I.V.Stalina.
(Metals--Analysis) (Colorimetry)

DYMOV, A.M.; KOZEL', L.Z.

Determining small contents of tungsten in titanium metal by
colorimetry. Izv.vys.ucheb.zav.; chern.met. 4 no.5:192-197 '61.
(MIRA 14:6)

1. Moskovskiy institut stali.
(Titanium--Analysis) (Tungsten--Analysis) (Colorimetry)

S/148/61/000/011/016/018
EO21/E435

AUTHORS: Dymov, A.M., Kozel', L.Z.

TITLE: The determination of small quantities of aluminium in metallic titanium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.11, 1961, 182-184

TEXT: Three methods of determining aluminium (0.002 to 0.1%) in titanium were tried. In the first method, the titanium was separated from the aluminium by precipitation with sodium hydroxide and the aluminium was finally determined colorimetrically. Experiments showed that the results gave considerably higher results than the quantities added. The second method consisted of separating the titanium from the aluminium by precipitating the titanium with cupferron and the extraction of titanium cupferronate by chloroform. The final determination was again carried out colorimetrically; the results were also somewhat higher than the aluminium added. Further experiments showed that boiling with hydrochloric acid enabled complete decomposition of the cupferron and a colourless solution could be obtained. The results obtained Card 1/2

The determination of small ...

S/148/61/000/011/016/018
E021/E435

were much better. The third method, used for determining Al contents of 0.05 to 0.4%, consisted of separating the titanium from the aluminium by cupferron with filtration of the titanium cupferronate precipitate without any extraction process. This method also gave good results when the cupferron was decomposed by boiling with hydrochloric acid. There are 4 tables and 6 non-Soviet-bloc references: the four most recent references to English language publications read as follows:

- Ref.1: J.A.Corbet. Metallurgia, 49, 1954, 206;
- Ref.3: Republic Steel Corp., Massilon. Ohio, 1954, 56-9;
- Ref.4: M.Codell and Norwitz. Anal. Chem. 25 (1953) 1437;
- Ref.6: J.J.Mikula and M.Codell. Anal. Chem., 27, 1955, 729.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 14, 1960

Card 2/2

KOZEV, M., inzh.; KATSNEL'SON, B., inzh.

New television receiving tubes. Radio no. 9:56-57 S '64.
(MIRA 17:12)